

## ABSTRACT

A junction field-effect transistor (20) comprises an n-type semiconductor layer (1) having a channel region, a buffer layer (3) formed on the channel region and a p<sup>+</sup> region (4a, 4b) formed on the buffer layer (3). The concentration of electrons in the buffer layer (3) is lower than the concentration of electrons in the semiconductor layer (1). The concentration of electrons in the buffer layer (3) is preferably not more than one tenth of the concentration of electrons in the semiconductor layer (1). Thus, the threshold voltage can be easily controlled, and saturation current density of a channel can be easily controlled.